

INGALS (E.F.)

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Read in the Section on Laryngology and Otology at the Forty-fifth
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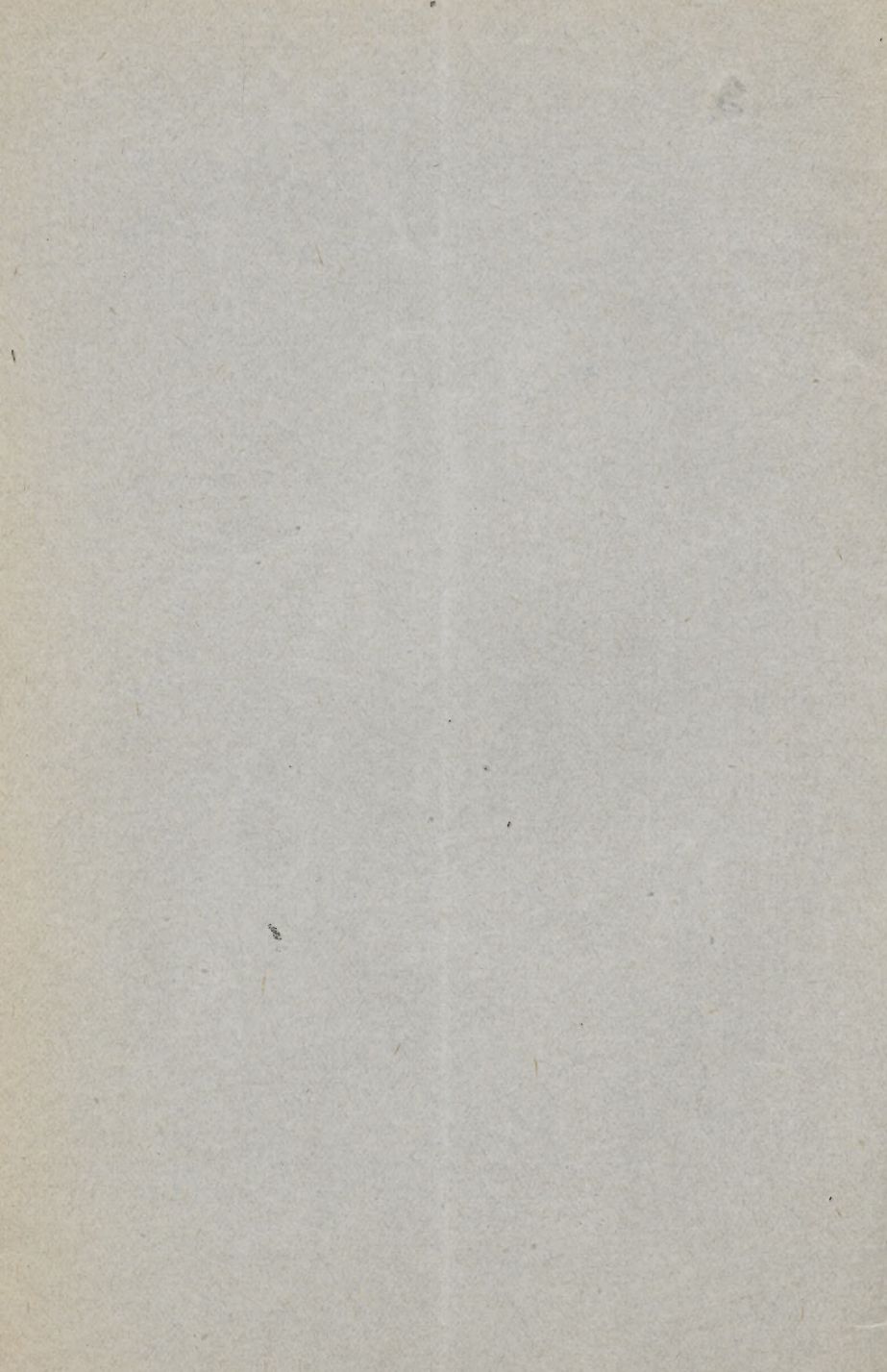
BY E. FLETCHER INGALS, A.M., M.D.
CHICAGO, ILL.



REPRINTED FROM
THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION,
SEPTEMBER 29, 1894.

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CHICAGO:
AMERICAN MEDICAL ASSOCIATION PRESS.
1894.

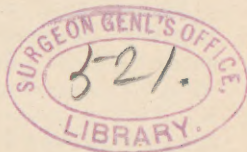


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HYPERTROPHY OF THE PHARYNGEAL OR LUSCHKA'S TONSIL.

Hypertrophy of the pharyngeal or Luschka's tonsil, by some authors termed adenoid growths, consists of an abnormal enlargement of the glandular tissues normally found in the vault and walls of the pharynx. It is characterized by obstruction of nasal respiration, with catarrhal symptoms and in many cases partial deafness, with alterations in the voice partially due to obstruction of the resonant chamber in the posterior nares, and partially to changes in the larynx caused by mouth-breathing. There is also more or less deterioration of the general health, and frequently deformity of the chest; in many instances mental hebetude and imperfect physical development are very pronounced. Attention was first directed to this condition by Meyer, of Copenhagen, in 1860, and later by Loewenberg, of Paris, who reported three cases in 1865. The same author subsequently published a complete *résumé* of the subject in 1879. A thorough discussion of the subject was brought out by Meyer's paper at the International Medical Congress in London in 1881; since which time so many articles have been written upon the subject that it has been worn almost threadbare. Nevertheless it appears to me that an analysis of a considerable number of cases occurring in private practice may furnish some new items of interest concerning the affection, or at least aid in settling some of the uncertain points in its clinical history.

Notwithstanding the many cases that have been reported by laryngologists, the disease is not so common as would at first appear. I find among my

records of private patients since 1881, histories of between 11,000 and 12,000 persons, of whom about 90 per cent. or in even numbers 10,000, came to me because of some disease of the chest, throat or nasal cavity. Of these, 203 or in even numbers, 200, equaling only 2 per cent. of the whole, had hypertrophy of the pharyngeal tonsil. It is impossible to determine the relative frequency of diseases of the chest, throat and nose, but as only 2 per cent. of these special cases suffer from enlargement of this gland, it is clear that the percentage must be infinitely smaller when all classes of disease are considered.

I find in 10,000 consecutive cases of diseases of the chest, throat and nasal cavities, 200 cases of hypertrophy of the pharyngeal tonsil. Of these 65 per cent. were residents of the city, and 35 per cent. came from the country or smaller towns. As only 27 per cent. of the whole number of my private patients within the last decade have come to me from out of the city it would appear upon the face of these statistics that the disease is about 50 per cent. more frequent in the country than among residents of the city. This does not agree with my deductions when considering the influence of sex, where I state that because of their living more out of doors boys seem less liable to the disease than girls. Possibly the disparity in this respect is due to the relatively larger number of city physicians who would treat this affection, thus diminishing the number of such patients who would consult any one specialist.

Out of the 200 cases of hypertrophy of Luschka's tonsil that have consulted me, in some the condition was of so little importance that it had not attracted the patient's attention, and was only discovered incidentally in making the ordinary examination; in many others I was consulted merely for diagnosis, and in still others for various causes the history has been imperfectly taken, so that the records are worthless for purposes of study. Excluding most of the foregoing I have selected 100 cases as nearly consecu-

tive as possible, not from any special feature which the case might present, but simply because of the completeness of the history, and I have excluded a considerable number of cases similar to these, not from any peculiarity of the history, but because it is more convenient to deal with an even hundred. These cases therefore, ought not to be considered as selected cases in the ordinary acceptance of this term; though it is probable that patients presenting the most pronounced symptoms were most carefully interrogated by my assistants who took the histories.

In my further consideration of this subject I shall confine myself to a study of these 100 cases which I think fairly and honestly represent the cases of well developed hypertrophy of the pharyngeal tonsil who would present themselves to a physician in private practice in this country.

The affection nearly always develops in infancy or early childhood. From the ages of the patients recorded, it appears that the disease is most frequent in children between the ages of 2 and 15; 54 per cent. being observed between the second and eighth year and 37 per cent. between the ninth and sixteenth. But the affection is also seen in older persons. Seven cases were found between the ages of 18 and 25, and one each at the ages of 26 and 37 respectively. These results differ widely from Meyer's, who observed less than 37 per cent. under 10 years of age, and less than 62 per cent. all told under 15. They differ even more widely from Bosworth's statistics which show less than 30 per cent. under 15 years of age. The difference is probably to be explained by the fact that I have ignored cases in which the growth had not attained sufficient size to cause the patient inconvenience, or had atrophied to such an extent as to have become unimportant.

A more critical examination of the histories in the endeavor to ascertain when the symptoms first appeared, indicates that the disease was certainly developed in 90 per cent. of the cases in infancy or very

early childhood. Many of these cases were said to have had difficulty in breathing since birth, and it is probable that in some of these the growth was congenital. I doubt very much whether the disease is ever developed after puberty.

From my statistics the affection appears to be more frequent in girls than in boys, 41 per cent. having been recorded as males and 59 per cent. females. This is possibly due to the fact that boys being so much more out of doors than girls are apt to be more vigorous and consequently less liable to hypertrophy of the adenoid tissues.

In Meyer's cases a little over 51 per cent. were males, but in Bosworth's cases only 36 per cent. were males. When it is remembered that in Copenhagen and its vicinity, the girls live more as do the boys than in this country, and are consequently more vigorous, my explanation of the influence of sex seems partially substantiated and it appears probable that under the same hygienic conditions there would be no difference in the frequency of this affection in the two sexes. Militating against the correctness of this view is the fact that Greville Macdonald and Sir Morell Mackenzie found the disease considerably more prevalent in males. This, however, may have been due to their considering many cases in which the gland had dwindled into insignificance; for it would appear reasonable to suppose that as puberty occurs at an earlier age in girls than in boys and as these glands usually atrophy at that period, the hypertrophy among girls would be noticed less frequently among them after the age of 11 or 12 than among boys of similar years. The fact that Woakes, also of London, found this affection about equally in the two sexes suggests that there must have been some radical difference in the method of analyzing the cases by different observers. Keeping in view the fact that 90 per cent. of the cases I am considering were observed before the age of puberty, and that all of them were well marked, there seems

little room for doubt that, in this locality, at least, the disease is more prevalent among girls than boys.

The anatomic and pathologic characteristics of this affection have been so thoroughly described by Meyer, Loewenberg, and subsequent writers that I will pass them by.

Etiology.—In an affection which has generally existed for years before the physician is consulted, it is impossible to obtain any very accurate idea of the causation; but this analysis seems to prove that enlargement of Luschka's tonsil in the great majority of cases is due to the same causes as hypertrophy of the faucial tonsils. It is attributed by various authors to hereditary influences, to the strumous and rheumatic diathesis, to diphtheria and the exanthematous diseases, to catarrhal troubles and to frequent colds.

I find among my cases several that appear to be congenital, though in none of these could this be stated certainly. Ten per cent. were apparently of hereditary origin as shown by the occurrence of two or more cases in the same family; 3 per cent. appeared to follow immediately after measles; 4 per cent. after scarlet fever; 1 per cent. after diphtheria; 3 per cent. were attributed by the parents, or the patient, to pneumonia or influenza; and a large number, amounting to 16 per cent., were attributed to frequent colds, or to what is doubtless included in the classification of some authors as a catarrhal condition. In 63 per cent. nothing could be discovered which appeared in any way to account for the origin of the disease. I find in the same connection that 35 per cent. of these patients were subject to frequent diseases of the throat.

In 76 per cent. one or both of the faucial tonsils were also enlarged in the same case; in 7 per cent. one, and 69 per cent. both. This coincident enlargement of the faucial tonsil occurs in such a large number of cases as to indicate that the two conditions are commonly dependent upon the same causes, and it

leads us to suspect that many of the results formerly attributed to enlargement of the faucial tonsils, more especially affections of the eye and ear and alterations of the voice, were in reality due to enlargement of Luschka's tonsil. In the great majority of cases where any of these symptoms just referred to appear with enlargement of the faucial tonsils, excision of the latter will be found to have but little influence, unless the pharyngeal tonsil is also removed. Scrofulous affections or enlargements of glands in other parts of the body were noted in only 2 per cent. of the cases.

Symptomatology.—The symptoms which are most commonly noticed by the parents or friends are: Snoring, loud breathing at night, restlessness, poor sleep with bad dreams, mouth breathing and general debility. The most frequent objective symptoms are: Impairment of the voice, deafness, and partial loss of the sense of smell. The patient's strength as indicating his general condition is noted in 65 cases, in 80 per cent. of which it was found to be good, in 18 per cent. only fair, and in 2 per cent. poor. The general debility apparently resulted in most of these cases from the imperfect aeration of the blood in consequence of obstructed respiration. Pains in various parts of the body were complained of in a few instances. The sense of sight was affected in 1 per cent. of the cases, and the sense of smell in 11 per cent. Frequent headache was complained of in 27 per cent. of the cases. Deafness is a common result of hypertrophy of Luschka's tonsil, the sense of hearing having been found impaired in 33 per cent. of these cases. In only 38 cases has any reference been made to the patient's mental condition, but because of the frequency with which these patients appear to be dull, I am surprised to find that in only one case is it noted that there was any impairment of the mental condition, and in this case it is stated that the patient appeared to be idiotic, a condition which seemed to have had no relation to the obstruction of the naso-pharynx.

The condition of the voice is noted in sixty-five cases ; in 30 per cent. of these it is said to be normal, but in fifteen muffled, impeded or thick ; in forty nasal, and in fifteen hoarse or husky, showing that it was affected in 70 per cent. of the cases where the condition of the voice was mentioned.

The condition of the respiration was noted in forty-six cases, in 60 per cent. of which it was found to be unaffected, but in 40 per cent. there was decided dyspnea. In only 8 per cent. of these the dyspnea was said to have occurred at night or during sleep, while in the remaining 32 per cent. the dyspnea was also noticed during the day.

More or less cough is a frequent symptom, with regard to which I find notes in seventy-three cases ; of these 60 per cent. had no cough ; in 12 per cent. it was described as slight or inconsiderable, in 12 per cent. as hacking to clear the throat, and in 12 per cent. as severe. In 6 per cent. of these seventy-three cases the cough occurred especially at night, or in the early morning.

The condition of the nasal cavities is noted in eighty-six cases, in 30 per cent. of which they were described as free or normal ; in $12\frac{1}{2}$ per cent. they were obstructed by exostosis from the septum, and in 50 per cent. by hypertrophy or swelling of the inferior turbinated bodies. Excessive secretion or other catarrhal symptoms were also noted in 60 per cent. of the cases. This would appear to sustain the theory advanced by MacDonald ("Diseases of the Throat and Nose," 1890), that a majority of cases of enlargement of Luschka's tonsil are due to obstruction of the nasal passages consequent upon rarification during inspiration of the air in the naso pharynx. However, as my records do not enable me to determine whether in these cases the obstruction of respiration preceded or followed the enlargement of Luschka's tonsil, the evidence for or against this proposition can not be considered conclusive ; but there has always been a question in my mind whether the obstruction of the

nasal cavities from swelling of the soft tissues in such cases was not the result rather than the cause of the hypertrophy of the pharyngeal tonsil.

The excessive discharge in nearly all of these cases is clearly the result of obstruction in the nasopharynx, which independently of its influence on the congestion of the mucous membrane, prevents evaporation of the secretions and causes their collection in the nasal fossæ.

In many cases, enlargement of the pharyngeal tonsil may be suspected from the appearance of the follicles in the lower portion of the pharynx. I find the condition of the pharynx noted in eighty-one cases, in 25 per cent. of which the follicles were found decidedly enlarged.

Deafness is noted in forty cases; the right ear was affected in twenty-four, the left in twenty-one, but there seems to be no relation between deafness upon one side and enlargement of the corresponding faucial tonsil; indeed, deafness appears to have been present quite as frequently when the faucial tonsils were but little enlarged as where these latter organs were greatly hypertrophied; therefore, so far as these statistics go they would seem to substantiate the statement already made, that affections of the special senses formerly supposed to have resulted from hypertrophy of the tonsils, have doubtless in most cases been caused by enlargement of the pharyngeal tonsil. In twenty-two of these the deafness was entirely cured or greatly improved by the treatment.

The form of the chest walls has been noted in only fifteen cases, but it is fair to suppose that in a majority of the others it was in a normal condition, otherwise it would have attracted the parents' attention and have been mentioned in the course of the examination. In the records where the condition of the chest walls is referred to it was normal in twelve and more or less deformed in only three of the cases.

Diagnosis.—The diagnosis in these cases was usually made by inspection of the posterior nares with the

rhinoscope, aided sometimes by anterior rhinoscopy and the nasal probe, but in young or unmanageable children in whom the throat mirror could not be properly used, it was verified by the finger passed into the naso-pharynx.

Treatment.—Many of the cases that have come under my observation were brought to me simply for diagnosis and suggestions for treatment, the patient subsequently having been placed under the care of some other physician. In some instances where the parents feared an operation, internal treatment has been recommended and carried out for a greater or less period of time, sometimes with advantage but in others with no effect. In still other instances surgical procedures have been carried out by other physicians, and I have been unable to obtain information of the results.

In the whole 200 cases, removal of the gland by operation was recommended in only 120 or 60 per cent., and in the 100 cases I am now considering it was recommended in only 90 per cent., and performed by me in only 76. In a considerable number of the patients upon whom I have operated, the records of treatment are very imperfect for the reason that speedily after the gland was removed the symptoms disappeared and the patient was considered well, so that I have heard nothing more of the case.

The records show that in fourteen cases internal treatment consisting of syrup of the iodid of iron or syrup of hydriodic acid, was suggested, and that in ninety cases surgical procedures were recommended. By consulting my records and the replies of parents or friends to my letter of inquiry, I find that the hypertrophied gland was removed in 76 of these 100 cases; that it was treated by local applications of chromic acid in 11 cases, but that the patient received internal treatment only in 13 cases. In fifty of the cases operated on, one or both of the faucial tonsils were also found more or less enlarged and in twenty-

two cases they were removed at the time of the operation on Luschka's tonsil.

One of the most notable results of freeing the naso-pharynx from this obstruction has been its effect upon the general condition. It is not uncommon for young children within six months after the operation to gain from 20 to 40 per cent. in weight and correspondingly in vigor and endurance.

Although in very few cases was the mental condition noted when the record was first made, I find by inquiry of parents or friends of the patient that the mental condition has been improved in 12 per cent. of cases in which an operation has been performed.

Deafness was noted in only forty cases and the effects of treatment upon the sense of hearing was recorded in only thirty-seven. In 30 per cent. of these there had been no improvement; in 4 per cent. there has been slight improvement, and in 66 per cent. the deafness has been greatly ameliorated or cured; the latter result being noted in 33 per cent. of the cases.

In the whole number of cases the voice was noted to have been affected in forty-five. In three of these no improvement was observed as a result of treatment; in some no subsequent history could be obtained, but in thirty-five, or 77 per cent., great improvement has been observed.

Of these 100 cases, 56 complained of catarrhal symptoms. Eighty-six per cent. of these have been greatly improved by the treatment, though 14 per cent. seem not to have been benefited. This appears to justify the opinion, already expressed, that the obstruction of the nasal passages is often the result instead of the cause of hypertrophy of the pharyngeal tonsil.

There is an undoubted tendency for hypertrophy of the pharyngeal tonsil to disappear by atrophy about the time of puberty; but an analysis of these cases, of which 9 per cent. were over 16 years of age, shows that this fortunate result is not so common as generally supposed. There appears to be a common impression

among laryngologists that unless such growths are removed by surgical measures the condition of the patient is almost sure to go from bad to worse, until the twelfth or fourteenth year, when atrophy usually begins. In twenty-seven of these cases, for various reasons no radical operation has been performed. Eleven of these were treated by applications of chromic acid through the nostril, and I find that eight of them were apparently cured by this treatment. In the remaining sixteen cases we have relied entirely upon internal treatment, consisting of the syrup of hydriodic acid or of the iodid of iron, the latter being given when anemia was apparent. I have been unable to obtain the subsequent history in four of these. In 50 per cent. of the twelve whose histories are completed there appears to have been great improvement or complete recovery, apparently as a result of the treatment. Four others were somewhat improved from various causes, and two appeared to have made no gain. This goes to show that although the most brilliant and satisfactory results are obtained by surgical procedures, constitutional remedies are adequate to the removal of the disease in a considerable number of cases, but this should not be made an excuse for allowing the patients with well marked hypertrophy of this gland to go on from year to year in the hope that internal remedies or time may effect the cure; because in the meantime in very many cases, inflammation of the Eustachian tube and middle ear will have caused deafness, or the voice may have become permanently altered, while deprivation of the patient of the amount of oxygen to which he is normally entitled will have stunted his growth, impaired his constitution, and possibly will have left a permanent impress upon his mental faculties from which nothing can ever relieve him.

An analysis of these cases leads to the following conclusions:

Hypertrophy of Luschka's tonsil is comparatively infrequent, occurring in only 2 per cent. of the

patients with diseases of the chest, throat and nasal cavities, and probably in not more than one-half of 1 per cent. of all cases.

In this locality the disease is apparently 50 per cent. more frequent in the country than in the city, and it occurs more frequently in girls than in boys.

The disease is observed in 90 per cent. of the cases before the fifteenth year of age and is probably always developed in infancy or early childhood, some cases appearing to be congenital.

Ten per cent. of the cases are apparently hereditary. Sixteen per cent. may be attributed to frequent colds; but in 63 per cent. no etiologic factor can be discovered.

In the great majority of cases the affection is apparently due to the same causes as enlargement of the faucial tonsils, and in 76 per cent. of the cases the faucial tonsils are also hypertrophied.

In a considerable number of cases, amounting to 18 per cent. the general health is materially injured by this affection.

The sense of smell is obtunded or lost in 11 per cent.

Hypertrophy of Luschka's tonsil is a frequent cause of headache, it being present in 27 per cent. of the cases.

It is a frequent cause of deafness, the hearing being affected in one-third of the cases. The deafness so caused may be benefited in a large majority (70 per cent.) of cases by operative procedures, 66 per cent. being greatly ameliorated and about half of these being completely cured.

The disease causes much alteration in the voice in about 70 per cent. of the cases. In nearly eight-tenths of these the voice may be greatly improved as the result of treatment.

In about 40 per cent. of the cases there is decided dyspnea, resulting from partial closure of the nasopharynx.

Forty per cent. of these patients have more or less

cough, in about one-third of which it is quite severe.

The pharyngeal follicles are enlarged in about one-fourth of all the cases. The nasal cavities are more or less closed by swelling or hypertrophy in 50 per cent. of the cases, and 56 per cent. complain of catarrhal symptoms, but in about nine-tenths of these the symptoms are removed by extirpation of the glandular tissue.

Although deterioration of the general health is not usually complained of, it is found as the result of operation that in many cases great improvement occurs immediately, the patient often gaining 30 per cent. in weight within six months.

